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09/981,175	10/17/2001	Robert E. Haines	10013720-1	5620

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EXAMINER

MURPHY, DILLON J

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/981,175

Applicant(s)

HAINES ET AL.

Examiner

Dillon J. Murphy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/17/2001.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Det. Ad

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities:

The application number and filing date of incorporated reference titled "Image Forming Devices and Methods or Forming Hard Images" are missing (Page 9, Lines 19-21). The application number is 09/981117, filed October 17, 2001.

The application number and filing date of incorporated reference titled "Active Packaging Providing Print Media Information" are missing (Page 10, Lines 6-8). The application number is 09/981466, filed October 17, 2001.

Appropriate correction is required.

There are numerous errors regarding the incorrect numbering of parts in figures, and the specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Examples of the errors include:

Host device is incorrectly referred to as #110 on page 7, line 5, which corresponds to #112 in Figure 1. Media detection module is referred to as part #218, page 9, line 3, which is #216 in Figure 2. LUT management module is referred to as part #220, page 10, line 12, which is #218 in Figure 2. Memory is referred to as part #214, page 10, line 26, which is #212 in Figure 2.

Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

Claim 12 is objected to because of the following informalities: the word "that" in the phrase "...performed responsive to a computer-executable instructions **hat** make a determination..." is misspelled as "hat." Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyakawa (US 4,617,580) and Furman (US 5,483,653) hereafter referred to as Miyakawa and Furman.

Regarding claim 1, Miyakawa teaches a system comprising an imaging device with a method comprising the detection by the imaging device, a media ID from print media (Miyakawa, OHP film detector #39 (figure 6) in imaging device detects media type, see also col 4, ln 18-22, media type is discriminated by the imaging device). The system of Miyakawa also teaches a method comprising the downloading of media parameters from an external source, and automatically configuring the imaging device based on the media parameters (Miyakawa, col 3, ln 33-42, and in figure 6, media

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parameters represented by data #35, are downloaded into computer memory #33 from external data #34. Driver is configured and then driven to perform printing based on recorded data #35). Miyakawa does not disclose expressly the imaging device comprised of methods explained above comprised in a system operatively coupling the imaging device to a server computer. Furman, however, teaches a system comprising an imaging device (Furman, figure 1, #50) operatively coupled across a network (Furman, figure 1, #20) to a server computer (Furman, figure 1, #25).

Miyakawa and Furman are combinable because they are in the same field of endeavor of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the server and imaging device operatively coupled together through a network with the methods of detecting, downloading, and configuring the imaging device as taught by Miyakawa. The motivation for doing so would have been to provide a recording apparatus that can record at an optimal density on any type of recording medium (Miyakawa, col 2, ln 13-15), and to share the resources of a printing system with multiple users and to provide a central print server for storing printing files (Furman, col 5, ln 17,18). Therefore, it would have been obvious to combine Miyakawa and Furman to obtain the invention as specified in claim 1.

Regarding claim 2, which depends from claim 1, the combination teaches that detecting media ID is performed responsive to loading print media in a tray or roll (Miyakawa, col 5, ln 3-7, micro switch detects paper loading).

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Regarding claim 3, which depends from claim 1, the combination teaches detecting media ID is performed in response to receiving an imaging job request (Miyakawa, col 4, ln 18-22, detection occurs when print command is received).

Regarding claim 4, which depends from claim 1, the combination further teaches a method wherein downloading the media parameters further comprises:

Communicating, by the imaging device, a media parameter request message to the server computer, the media parameter request message comprising the media ID (Miyakawa, col 3, ln 31-37, data address is generated by address decoder, accessing external data to be downloaded into RAM); and

Receiving a media parameter response message comprising the media parameters from the server computer (Miyakawa, col 3, ln 31-37, external data, which controls driver operation, is downloaded into RAM).

Regarding claim 5, the combination teaches an imaging device comprising:

A memory comprising computer-executable instructions (Miyakawa, figure 6, RAM #33, with data #35 and external data #34 stored and accessed from RAM), a processor (Miyakawa, figure 6, CPU #30) operatively coupled to the memory, the processor being configured to fetch and execute the computer executable instructions from the memory, the computer-executable instructions comprising instructions for:

Detecting, by the imaging device, a media ID from print media (Miyakawa, col 4, ln 18-22, detecting media type and associated ID, imaging device further comprising CPU #30 coupled with RAM #33, Figure 6);

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Responsive to detecting the media ID, downloading a set of media parameters corresponding to the media ID from a server computer, and automatically configuring the imaging device based on media parameters (Miyakawa, col 3, ln 33-42, and in figure 6, media parameters represented by data #35, are downloaded into computer memory #33 from external data #34. Driver is configured and then driven to perform printing based on recorded data #35).

Regarding claim 6, which depends from claim 5, the combination teaches an imaging device with instructions for detecting the media ID wherein the instructions are performed responsive to computer-executable instructions that make a determination that print media has been loaded into a print media supply tray (Miyakawa, col 5, ln 3-7, micro switch is part in sensor comprised in Ink Jet Unit, IJU, #38, coupled with CPU #30, Figure 6).

Regarding claim 7, which depends from claim 5, the combination teaches an imaging device wherein the instructions for detecting the media ID are performed responsive to computer-executable instructions indicating that an imaging job request has been received (Miyakawa, col 4, ln 18-22, detection occurs when print command is received).

Regarding claim 8, which depends on claim 5, the combination teaches an imaging device, wherein the instructions for downloading the media parameters further comprise instructions for:

Communicating, by the imaging device, a media parameter request message to the server computer, the media parameter request message comprising the media ID

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(Miyakawa, col 3, ln 31-37, data address is generated by address decoder, accessing external data to be downloaded into RAM); and

Receiving a media parameter response message comprising the media parameters from the server computer (Miyakawa, col 3, ln 31-37, external data, which controls driver operation, is downloaded into RAM).

Regarding claim 11, the combination further teaches a computer-readable medium comprising computer-executable instructions (Miyakawa, figure 6, RAM #33, with data #35 and external data #34 stored and accessed from RAM), the computer-executable instructions comprising instructions for:

Detecting, by the imaging device, a media ID from print media (Miyakawa, col 4, ln 18-22, detection by imaging device, imaging device further comprising CPU #30 coupled with RAM #33, Figure 6);

Responsive to detecting the media ID, downloading a set of media parameters corresponding to the media ID from a server computer, and automatically configuring the imaging device based on media parameters (Miyakawa, col 3, ln 33-42, and in figure 6, media parameters represented by data #35, are downloaded into computer memory #33 from external data #34. Driver is configured and then driven to perform printing based on recorded data #35).

Regarding claim 12, which depends from claim 11, the combination teaches a computer-readable medium wherein the instructions for detecting the media ID are performed responsive to computer-executable instructions that make a determination

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that print media has been loaded into a print media supply tray (Miyakawa, col 5, ln 3-7, micro switch controlled by processor).

Regarding claim 13, which depends from claim 11, the combination teaches a computer-readable medium wherein the instructions for detecting the media ID are performed responsive to computer-executable instructions indicating that an imaging job request has been received (Miyakawa, col 4, ln 18-22, detection occurs when print command is received).

Regarding claim 14, which depends from claim 11, the combination teaches a computer-readable medium wherein the instructions for downloading the media parameters further comprise instructions for:

Communicating, by the imaging device, a media parameter request message comprising the media ID to the server computer, and receiving a media parameter response message comprising media parameters from server computer (Miyakawa, col 3, ln 31-37, data address is generated by address decoder to communicate request message to external data, which accesses external data to be downloaded and received by RAM).

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyakawa (US 4,617,580), Furman (US 5,483,653), and Kamada et al. (US 6,128,098), hereafter referred to as Miyakawa, Furman, and Kamada.

Regarding claim 9, which depends from claim 5, the combination of Miyakawa and Furman teaches a printing system with a method for detecting, downloading, and configuring an imaging device in a network coupled with a server computer in response

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to detecting a media ID, as well as a computer-readable medium comprising computer-executable instructions comprising instructions for the same. The combination of Miyakawa and Furman does not disclose expressly the instructions wherein response to downloading media parameters, updating a look-up table to map the media ID to the media parameters. Kamada, however, teaches an imaging device comprising a computer-readable medium comprising computer-executable instructions (Kamada, Figure 10, EEPROM #132 and RAM #129, instructions and applications are stored in memory in col 14, ln 21-41) for updating a look-up table in response to downloading media parameters (Kamada, col 49, ln 36-40, and col 52, ln 56-56, wherein downloaded parameters are stored in look-up-tables). The operation of the imaging device in the Kamada reference is also in response to media parameters. When the imaging device is initialized and a command is issued to check printer parameters, a new test pattern is printed on a specific medium (Kamada, figure 34, step S3407). The test pattern checks for print density and dot alignment, which are directly related to media type. The imaging device detects the test pattern image on the specific media type (Kamada, figure 34, step S3409), contacts host computer, and downloads new parameters into memory (Kamada, figure 34, step S3411). The new printer parameters are stored in a look-up table in memory (Kamada, col 49, ln 36-40, and col 52, ln 56-56), and the imaging device is automatically configured to respond to the new parameters (Kamada, figure 34, step S3414).

Miyakawa, Furman, and Kamada are combinable because they are all in the same field of printing systems. At the time of the invention, it would have been obvious

to a person of ordinary skill in the art to combine the computer-readable medium comprising computer-executable instructions for the look-up table operation of Kamada with the combination of Miyakawa and Furman comprising computer-readable medium comprising computer-executable instructions comprising instructions for detecting, downloading, and configuring an imaging device in a network coupled with a server computer in response to detecting a media ID. The motivation for doing so would have been to provide an ink-jet printer that can print at an optimal density on any type of recording medium (Miyakawa, col 2, ln 13-15) by detecting media type and efficiently looking up printer parameters in a look-up table to automatically configuring the imaging device. Therefore, it would have been obvious to combine Kamada with the combination of Miyakawa to obtain the invention as specified in claim 9.

Regarding claim 10, which depends from claim 5, the combination teaches an imaging device where in the computer-executable instructions further comprise instructions for updating a look-up-table such that the look-up-table only contains the most recently used media ID to media parameter mappings (Kamada, col 39, ln 20-24, parameters are stored in look-up-tables, and computer checks to see if configuration of tables has changed, showing printer look-up-tables only store most recent parameters).

Claims 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamada et al. (US 6,128,098) and Mestha et al. (US 6,757,076), hereafter referred to as Kamada and Mestha.

Regarding claim 15, Kamada teaches a printing system with a method of receiving, by the host computer, a media parameter request message from an imaging

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device comprising a media ID that corresponds to print media (Kamada, figure 34, media parameters are scanned by imaging device (S3409) and sent to host computer (S3410), representative unit in a network, as a request for print parameters based upon media parameters, col 13, ln 58-67 and col 14, ln 1-5. An example of media parameters sent to host computer is the optical density of the image on the particular medium, which is dependent on the absorption and type of the media, col 13, ln 38-44 and also col 41, ln 25-30). Kamada also teaches a method of downloading the media parameters to the imaging device (Kamada, col 17, ln 62-65, media parameters are registered in printer by host computer). Kamada does not teach expressly the method of evaluating a remote look-up-table to determine a set of media parameters that correspond to the media ID as a response to receiving the media parameter request message, nor does Kamada teach a printing system comprising a server computer operatively coupled across a network to an imaging device. However, Mestha teaches a method of evaluating a look-up-table to determine a set of media parameters that correspond to the media ID (Mestha senses color on a media, col 8, ln 33-35, imaging device sends information to server, col 8, ln 48-57, server evaluates look-up table, col 9, ln 6-14), and also teaches a system comprising a server computer (Mestha, figure 1, #120 server) that is operatively coupled across a network (Mestha, figure 1, #118, network) to an imaging device (Mestha, figure 1, #140, color marking device).

Kamada and Mestha are combinable because they are from the same field of endeavor of printing and modifying imaging devices based on print parameters. At the time of the invention, it would have been obvious to a person of ordinary skill in the art

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to add the network system and look-up-table of Mestha to the receiving media parameter request method and downloading media parameter method of Kamada. The motivation for doing so would have been to share imaging device resources by coupling the device with a network, to centralize and improve the parameter evaluation function with a look-up table, and to provide consistent color on different media types without requiring the intervention of either a user or a color specialist (Mestha, col 3, ln 48-67). Therefore, it would have been obvious to combine Mestha with Kamada to obtain the invention as specified in claim 15.

Regarding claim 16, which depends from claim 15, the combination teaches a method wherein downloading the media parameters further comprises:

Communicating, by the server device, a response message to the imaging device that comprises the media parameters (Kamada, col 20, ln 2-9, where print driver in the host processor responds with commands sent to printer, and in Mestha, col 9, ln 10-14, where response message is sent to a digital front end and then onto the printer).

Regarding claim 17, the combination teaches a computer-readable medium (Kamada, Figure 10, ROM #122, EEPROM #132, RAM #129, Fixed Disk #25, RAM #116, ROM #43 and Floppy Disk #107, Mestha, Figure 1, server #120 with hard drive, digital front end #130 with hard drive, and memory #143) comprising computer-executable instructions (Kamada, figure 10, Print Driver #114 stored on Fixed Disk #25, print controls stored in RAM #129, col 54, ln 20-23, instructions and applications in memory, col 14, ln 21-41) the computer-executable instructions comprising instructions for:

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Receiving, by a server computer, a media parameter request message comprising a media ID that corresponds to print media (Kamada, figure 34, media parameters are scanned by imaging device (S3409) and sent to host computer (S3410), representative unit in a network, as a request for print parameters based upon media parameters, col 13, ln 58-67 and col 14, ln 1-5. An example of media parameters sent to host computer is the optical density of the image on the particular medium, which is dependent on the absorption and type of the media, col 41, ln 25-30), the media parameter request message having been communicated to the server computer by an imaging device (Mestha, figure 1, #140, color marking device) that is operatively coupled to the server computer (Mestha, figure 1, #120 server) across a network (Mestha, figure 1, #118, network);

Responsive to receiving the media parameter request message, evaluating a remote look-up-table to determine a set of media parameters that correspond to the media ID (Mestha senses color on a media, col 8, ln 33-35, imaging device sends information to server, col 8, ln 48-57, server evaluates look-up table, col 9, ln 6-14); and

Downloading the media parameters to the imaging device (Kamada, col 17, ln 62-65, media parameters are registered in printer by host computer).

Regarding claim 18, which depends from claim 17, the combination teaches a computer-readable medium wherein the instructions for downloading the media parameters further comprise instructions for:

Communicating, by the server device, a response message to the imaging device that comprises the media parameters (Kamada, col 20, ln 2-9, where print driver

in the host processor responds with commands sent to printer, see also Kamada, figure 34, S3411, host computer responds to imaging device request with new compensation parameters, and in Mestha, col 9, ln 10-14, where response message is sent to a digital front end and then onto the printer).

Regarding claim 19, which depends from claim 17, the combination further comprises a server computer comprising computer-executable instructions (Mestha, col 12, ln 61-64, where processing including look-up-table operations occur on server computer #120 of Figure 1).

Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamada et al. (US 6,128,098), Ueda et al. (5,801,722), and Mestha et al. (US 6,757,076) hereafter referred to as Kamada, Ueda, and Mestha.

Regarding claim 20, Kamada teaches an imaging device configured to download a set of media parameters corresponding to the media ID from a host computer and automatically configures the imaging device operations based on the media parameters (Kamada, figure 34, media parameters are scanned by imaging device (S3409) and sent to host computer (S3410), representative unit in a network, as a request for print parameters based upon media parameters, col 13, ln 58-67 and col 14, ln 1-5. An example of media parameters sent to host computer is the optical density of the image on the particular medium, which is dependent on the absorption and type of the media, col 13, ln 38-44 and also col 41, ln 25-30). Kamada does not teach expressly the detection of media ID from print ID, although it does detect media ID through the detection of alignment and optical density, which is based off of media type. Ueda,

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however, teaches the detection of media ID from print ID directly (col 8, ln 8-21, and ln 48-58, detecting media ID from optical scanning and markings such as bar codes or other invisible markings).

Kamada and Ueda are combinable because they are from the same field of endeavor of improving print quality based off of media type and ID. At the time of invention, it would have been obvious to a person of ordinary skill in the art to add the direct media ID detection configuration of Ueda to the downloading and configuring portion of the imaging device in Kamada. The motivation for doing so would have been to provide an improved imaging device which can provide high quality images onto any kind of recording papers and which can save time, paper, and ink (Ueda, col 2, ln 24-28) as well as providing a providing a means for providing control and bidirectional communication for defining parameters in a printer without changing printer hardware (Kamada, col 2, ln 35-44).

The combination of Kamada and Ueda teaches an imaging device configured for detecting media ID from print media, downloading a set of media parameters from a host computer, and configuring the imaging operations based on media parameters. The combination of Kamada and Ueda does not teach expressly the imaging device in a system comprising a server computer coupled across a network to an imaging device. However, Mestha teaches a system comprising an imaging device operatively coupled across a network to a server computer (Mestha, figure 1, color marking device #140 corresponds to imaging device, network #118, server #120).

Kamada, Ueda, and Mestha are combinable because they are from the same field of endeavor of printing and improving print quality based off of media parameters. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to incorporate the imaging device configured for detecting media ID, downloading media parameters, and configuring the imaging operations as taught by the combination of Kamada and Ueda with the server and network as taught by Mestha. The motivation for doing so would have been to share imaging device resources by coupling the device with a network, and to provide consistent color on different media types without requiring the intervention of either a user or a color specialist (Mestha, col 3, ln 48-67). Therefore, it would have been obvious to combine Mestha with the combination of Kamada and Ueda to obtain the invention as specified in claim 20.

Regarding claim 21, which depends from claim 20, the combination teaches a system wherein the server computer is configured to:

Receive a media parameter request message comprising a media ID that corresponds to print media, the media parameter request message having been communicated to the server computer by the imaging device (Kamada, col 13, ln 58-67 and col 14, ln 1-5, print information regarding print parameters are sent by imaging device and received by computer, a representative unit in a network, as a request for media parameters),

Responsive to receiving the media parameter request message, evaluate a remote look-up-table to determine a set of media parameters that correspond to the

media ID (Mestha senses color on a media, col 8, ln 33-35, imaging device sends information to server, col 8, ln 48-57, server evaluates look-up table, col 9, ln 6-14); and

Download the media parameters to the imaging device (Kamada, col 17 ln 62-65, media parameters are registered in printer by host computer).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mulay et al. (US 6,398,333), filed August 9, 2000, is cited for teaching a printing system that detects media ID and configures an imaging device with parameters in a look-up-table. Sugiyama (US 6,622,625), filed August 31, 2000, is cited for teaching a printing system that detects media and determines the best printing mode.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dillon J. Murphy whose telephone number is (571) 272-5945. The examiner can normally be reached on M-F, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on (571) 272-7437. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



DAVID MOORE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).